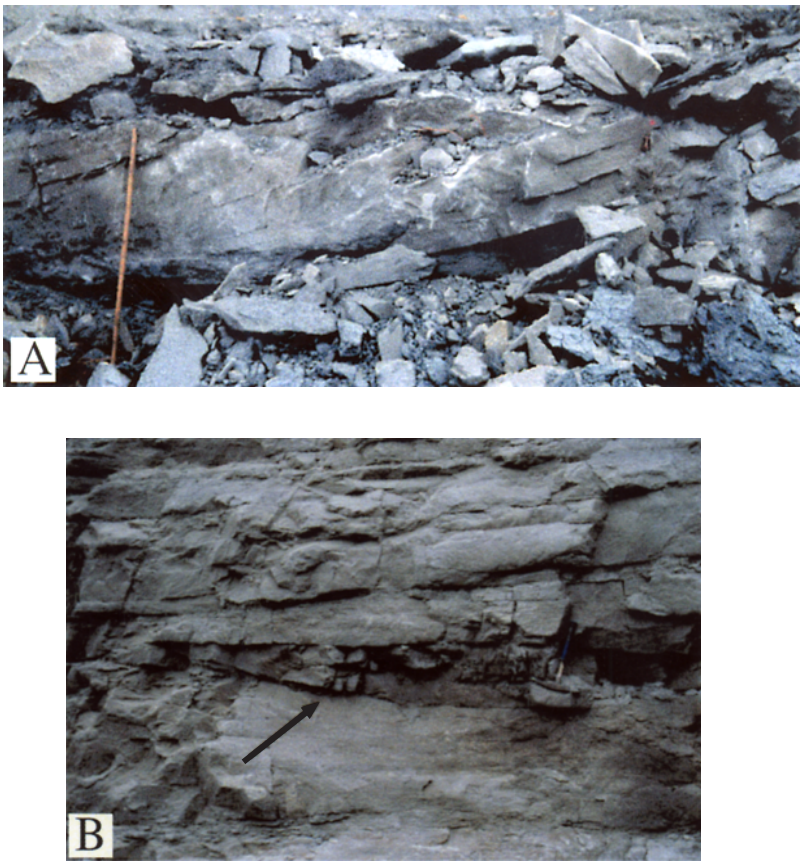

Figure 2.14. Outcrop photos of sandy, skeletal grainstone-packstone facies. (A) Cross-bedded sandy, skeletal grainstone-packstone as observed at locality HM (See figure 2.1 for locality map). Staff is 1.5 m. (B) Horizontal bedding in sandy, skeletal grainstone-packstone facies as observed at locality SRO (see figure 2.1 for locality map). Some trough cross bedding is present (arrow) but is truncated by overlying horizontal beds.

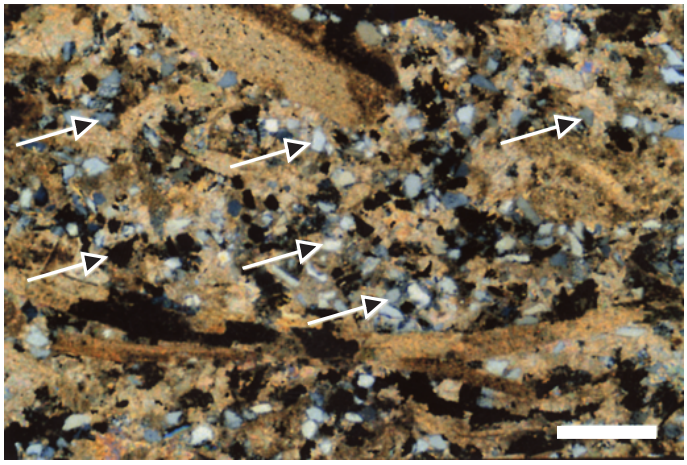

Figure 2.15. Photomicrograph of typical fabric of sandy, skeletal grainstone-packstone facies. Note abundance of coarse skeletal fragments. Also note the abundant fine sand-silt sized quartz grains (arrows) (sample S-7; plane polarized light; scale bar = 1 mm).

of various types and sizes are common. Plant fragments are typically oriented parallel to bedding planes in thin layers. Micritized grains are present but much less common than in the peloidal, skeletal packstone facies (Figure 2.15). The above described features allow the sandy, skeletal grainstone-packstone facies to be differentiated from the peloidal, skeletal packstone facies.

Environmental Interpretation

The association of terrigenous material such as detrital quartz and plant material with marine skeletal debris in the sandy, skeletal grainstone-packstone suggests the close proximity of a terrigenous source to a marine environment. Because of this relationship, it seems most reasonable to interpret the sandy, skeletal grainstones and packstones found in the Farley as either distributary channel or distributary mouth bar deposits.

Deposition within tidal channels is one scenario. Medium-scale cross-beds like those found in the sandy, skeletal grainstone-packstone facies are characteristic of tidal channels in nearshore environments (Wilson & Jordan, 1985). Another possibility is deposition as a distributary mouthbar. Reineck and Singh (1975) stated that distributary mouth bars are sandy shoals formed near the seaward limit of distributary channels. Deposits of distributary mouth bars are made up of sand and silt, commonly with thin laminations of plant debris. The most common sedimentary structure is trough cross-bedding (Reineck & Singh, 1975).

Oolite Facies

Oolite (Fig. 2.16) occurs in several localities throughout the Farley Limestone. There are two types of oolite in the Farley Limestone, and they each comprise an oolite subfacies. The first type is ooid grainstone. The greatest accumulation of this subfacies is towards the north where the lower Farley is composed of a single bed of cross-bedded